



4/17/2012

**RELIABILITY MONITOR REPORT
FOR**

X3 SiGe HBT 0.35 μ m BiCMOS (MB3)

MAXIM Integrated Products

**120 San Gabriel Dr.
Sunnyvale, CA 94086**

**This Report was prepared by
Maxim Reliability Engineering**

Summary:

The data in the tables that follow was generated as the result of an on-going Process Reliability Monitor. The specific products in this process monitor are:

MAX12005ETM	MAX12005ETM	MAX2090ETP+	MAX2091ETP+	MAX2121ETI+
MAX2135AETN	MAX2553ETN+	MAX25973LB+	MAX2597ELB+	MAX2659ELT+T
MAX2769BETI/	MAX3541ELM+	MAX3636ETM+	MAX3710ETG+	MAX3711ETG+
MAX3948ETE+	MAX3989ETG+	MAX3997ETM+		

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 101354 QUANTITY: 1343 FAILS: 0 FITS: 1.1

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 Tu: 25 °C

The reliability data follows and in this section is the detailed reliability data by stress. The reliability data section includes the latest data available. This report covers data between 4/1/2011 and 3/31/2012 .

Process Information:

Process Description: X3 SiGe HBT 0.35µm BiCMOS (MB3)

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	1035	MAX12005ETM+CF7	135C	192 HRS	24	0	S23SI3001HA
HIGH TEMP OP LIFE	1035	MAX12005ETM+CF7	135C	192 HRS	24	0	S23SI3001HQ
HIGH TEMP OP LIFE	1045	MAX3997ETM+	135C	192 HRS	48	0	SV1ZAQ001BQ
HIGH TEMP OP LIFE	1109	MAX3989ETG+	135C	192 HRS	80	0	ST7ZAQ001CQ
HIGH TEMP OP LIFE	1110	MAX12005ETM+	135C	192 HRS	24	0	S23SIQ002BQ
HIGH TEMP OP LIFE	1110	MAX12005ETM+	135C	192 HRS	24	0	S23SIQ002CQ
HIGH TEMP OP LIFE	1112	MAX3948ETE+	135C	192 HRS	80	0	SY1ZB3001BQ
HIGH TEMP OP LIFE	1114	MAX2121ETI+	135C	192 HRS	48	0	S1HZB3001EQ
HIGH TEMP OP LIFE	1114	MAX2121ETI+	135C	192 HRS	48	0	S1HZB3001CQ
HIGH TEMP OP LIFE	1114	MAX2121ETI+	135C	1000 HRS	48	0	S1HZB3001DQ
HIGH TEMP OP LIFE	1114	MAX2121ETI+	135C	1000 HRS	47	0	S1HZB3001BQ
HIGH TEMP OP LIFE	1120	MAX2597ELB+	135C	500 HRS	44	0	SYV7B3152Q1
HIGH TEMP OP LIFE	1120	MAX2597ELB+	135C	500 HRS	43	0	S7V7BA146Q2
HIGH TEMP OP LIFE	1120	MAX2597ELB+	135C	500 HRS	44	0	SYV7BA138Q3
HIGH TEMP OP LIFE	1122	MAX2090ETP+	135C	24 HRS	48	0	SL8ZEQ002CQ
HIGH TEMP OP LIFE	1123	MAX2769BETI/V+	135C	1000 HRS	50	0	SS70BQ002DA
HIGH TEMP OP LIFE	1127	MAX3710ETG+	135C	192 HRS	80	0	ST5ZCQ001CQ
HIGH TEMP OP LIFE	1127	MAX2659ELT+T	135C	1000 HRS	47	0	SBXZDA101Q1
HIGH TEMP OP LIFE	1127	MAX2659ELT+T	135C	1000 HRS	48	0	SBXZDA101Q2
HIGH TEMP OP LIFE	1127	MAX2659ELT+T	135C	1000 HRS	48	0	SBXZDA101Q3

HIGH TEMP OP LIFE	1129	MAX3636ETM+	135C	192	HRS	48	0	S24W5Q001EQ
HIGH TEMP OP LIFE	1129	MAX3636ETM+	135C	192	HRS	32	0	S24W5Q001GQ
HIGH TEMP OP LIFE	1129	MAX3636ETM+	135C	192	HRS	48	0	S24W5Q001DQ
HIGH TEMP OP LIFE	1129	MAX3636ETM+	135C	240	HRS	32	0	S24W5Q001FQ
HIGH TEMP OP LIFE	1132	MAX3711ETG+	135C	192	HRS	80	0	ST5ZDQ001CQ
HIGH TEMP OP LIFE	1134	MAX2553ETN+	135C	192	HRS	60	0	SZ7XDQ001AQ
HIGH TEMP OP LIFE	1134	MAX2553ETN+	135C	240	HRS	48	0	SZ7XDQ001BQ
HIGH TEMP OP LIFE	1151	MAX2135AETN+	135C	192	HRS	48	0	SD9YBA140D
Total:							0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
STORAGE LIFE	1120	MAX2597ELB+	150C	1000 HRS	76	0	SYV7B3152Q1	
STORAGE LIFE	1120	MAX2597ELB+	150C	1000 HRS	76	0	SY7BA146Q2	
STORAGE LIFE	1120	MAX2597ELB+	150C	1000 HRS	75	0	SYV7BA138Q3	
STORAGE LIFE	1125	MAX3541ELM+	150C	500 HRS	77	0	SPTBF3026Q4	
STORAGE LIFE	1127	MAX2659ELT+T	150C	1000 HRS	77	0	SBXZDA101Q2	
STORAGE LIFE	1127	MAX2659ELT+T	150C	1000 HRS	77	0	SBXZDA101Q3	
STORAGE LIFE	1129	MAX2597ELB+	150C	500 HRS	77	0	SYB7BA159Q1	
STORAGE LIFE	1147	MAX3541ELM+	150C	500 HRS	200	0	SPTBGA029HA	
STORAGE LIFE	1147	MAX3541ELM+	150C	500 HRS	200	0	SPTBGA029HB	
STORAGE LIFE	1205	MAX2091ETP+	150C	192 HRS	50	0	SL8ZEQ003BA	
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
TEMP CYCLE, 5' RAMP, 10' DWELL	1125	MAX3541ELM+	-65C TO 150C	500 CYS	77	0	SPTBF3026Q4	
TEMP CYCLE, 5' RAMP, 10' DWELL	1127	MAX2659ELT+T	-65C TO 150C	1000 CYS	77	0	SBXZDA101Q2	
TEMP CYCLE, 5' RAMP, 10' DWELL	1127	MAX2659ELT+T	-65C TO 150C	1000 CYS	77	0	SBXZDA101Q3	
TEMP CYCLE, 5' RAMP, 10' DWELL	1129	MAX2597ELB+	-65C TO 150C	1000 CYS	75	0	SYV7BA159Q1	
TEMP CYCLE, 5' RAMP, 10' DWELL	1129	MAX2597ELB+	-65C TO 150C	1000 CYS	77	1	SYV7BA159Q3	
Total:							1	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
MOISTURE SOAK	1120	MAX2597ELB+	85 C/85% R.H.	485 HRS	41	0	SYV7B3152Q1
MOISTURE SOAK	1120	MAX2597ELB+	85 C/85% R.H.	485 HRS	41	0	SYV7BA146Q2
MOISTURE SOAK	1120	MAX2597ELB+	85 C/85% R.H.	485 HRS	41	0	SYV7B138Q3

MOISTURE SOAK	1129	MAX25973LB+	85 C/85% R.H.	1000	HRS	40	0	SYV7BA159Q1
MOISTURE SOAK	1129	MAX2597ELB+	85 C/85% R.H.	1000	HRS	40	0	SYV7BA159Q2
MOISTURE SOAK	1129	MAX2597ELB+	85 C/85% R.H.	1000	HRS	40	0	SYV7BA159Q3

Total: **0**

FAILURE RATE: **MTTF (YRS): 101354** **QUANTITY: 1343** **FAILS: 0** **FITS: 1.1**